

CLAIMS

1. An apparatus, comprising:

a lighting fixture to generate variable color radiation, the lighting fixture adapted
5 to be mounted on a surface and having a first dimension less than 2.5 inches, the first
dimension being essentially normal to the surface when the lighting fixture is mounted
on the surface.

2. The apparatus of claim 1, wherein the first dimension is less than 2.25 inches.

3. The apparatus of claim 1, wherein the first dimension is less than 2.0 inches.

4. The apparatus of claim 1, wherein the first dimension is less than 1.75 inches.

5. The apparatus of claim 1, wherein the first dimension is less than 1.5 inches.

6. The apparatus of claim 1, wherein the first dimension is less than 1.25 inches.

7. The apparatus of claim 1, wherein the first dimension is less than approximately 1.0
20 inch.

8. The apparatus of claim 1, wherein the first dimension is approximately 0.5 inch.

9. An apparatus, comprising:

25 a lighting fixture to generate variable color radiation to illuminate a liquid
contained in one of a pool and a spa, the lighting fixture adapted to be mounted on a
portion of an inner surface of the one of the pool and the spa, the inner surface being at
least partially in contact with the liquid.

30 10. The apparatus of claim 9, wherein the lighting fixture comprises at least one
mounting mechanism to mount the lighting fixture to the inner surface.

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11. The apparatus of claim 10, wherein the at least one mounting mechanism includes at least one suction mechanism to mount the lighting fixture to the inner surface.
12. The apparatus of claim 10, wherein the inner surface is formed from at least one magnetic material, and the at least one mounting mechanism includes at least one magnetic mechanism to mount the lighting fixture to the inner surface.
13. The apparatus of claim 9, in combination with the one of the pool and the spa.
14. The apparatus of claim 9, wherein the lighting fixture includes at least one LED.
15. The apparatus of claim 14, wherein the at least one LED includes at least two differently colored LEDs.
16. The apparatus of claim 14, wherein the at least one LED includes at least one red LED, at least one green LED, and at least one blue LED.
17. The apparatus of claim 9, wherein the lighting fixture has a first dimension less than 2.5 inches, the first dimension being essentially normal to the portion of the inner surface of the one of the pool and the spa when the lighting fixture is mounted on the portion of the inner surface.
18. The apparatus of claim 17, wherein the first dimension is less than 2.25 inches.
19. The apparatus of claim 17, wherein the first dimension is less than 2.0 inches.
20. The apparatus of claim 17, wherein the first dimension is less than 1.75 inches.
21. The apparatus of claim 17, wherein the first dimension is less than 1.5 inches.
22. The apparatus of claim 17, wherein the first dimension is less than 1.25 inches.

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23. The apparatus of claim 17, wherein the first dimension is less than 1 inch.

24. The apparatus of claim 17, wherein the first dimension is approximately 0.5 inches.

5 25. The apparatus of claim 9, wherein the one of the pool and the spa has a range of typical liquid levels of the liquid during use, and wherein the light fixture is adapted to be disposed below the range of typical liquid levels.

10 26. The apparatus of claim 25, wherein the light fixture is adapted to be submersible in the liquid.

27. The apparatus of claim 26, wherein the light fixture comprises an essentially water tight lens.

15 28. The apparatus of claim 9, wherein the lighting fixture is adapted to be mounted on the portion of the inner surface such that the lighting fixture does not protrude through the portion of the inner surface.

20 29. The apparatus of claim 28, wherein the one of the pool and the spa has a range of typical liquid levels of the liquid during use, and wherein the apparatus further includes at least one cable coupled to the lighting fixture, wherein the cable and the lighting fixture are mounted to the inner surface such that no holes are required to be made in the inner surface below the range of typical liquid levels to accommodate the lighting fixture and the cable.

25 30. The apparatus of claim 28, in combination with the one of the pool and the spa, wherein the apparatus further includes at least one cable coupled to the lighting fixture, wherein the cable passes through a hole in the inner surface, and wherein the lighting fixture is adapted to make a water tight seal with the inner surface such that
30 the liquid is unable to leak through the hole.

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31. A method of illuminating a liquid contained in one of a pool and a spa with variable color radiation, comprising an act of:

mounting a lighting fixture, adapted to generate the variable color radiation, on a portion of an inner surface of the one of the pool and the spa, the inner surface being at least partially in contact with the liquid.

32. A light fixture for use in a liquid environment, the light fixture comprising:

a housing adapted to be at least partially in contact with a liquid; and

at least one light source supported and enclosed by the housing, the at least one light source including at least one LED, the housing preventing the at least one light source from contacting the liquid, the at least one light source and the housing being particularly adapted such that heat generated by the at least one light source is effectively absorbed by the liquid via the housing.

33. The light fixture of claim 32, wherein the housing includes at least one waterproof surface.

34. The light fixture of claim 32, wherein the at least one light source is particularly positioned in the housing such that heat generated by the at least one light source is effectively absorbed by the liquid via the housing.

35. The light fixture of claim 32, wherein the housing includes at least one metal portion at least partially in contact with the liquid.

36. The light fixture of claim 32, wherein the housing includes at least one plastic portion at least partially in contact with the liquid.

37. The light fixture of claim 32, wherein the housing includes at least one rubber portion at least partially in contact with the liquid.

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38. The light fixture of claim 32, wherein the housing further includes a gap pad disposed within and supported by the housing, and wherein the gap pad is at least thermally coupled to both the at least one light source and the housing.

5 39. The light fixture of claim 38, wherein the housing further includes a back plate, and wherein the gap pad is disposed between the at least one light source and the back plate.

10 40. A method for dissipating heat from at least one light source in a liquid environment containing a liquid, the at least one light source including at least one LED, the method comprising acts of:

a) preventing the at least one light source from contacting the liquid; and

b) providing at least one thermal path between the at least one light source and the liquid such that heat generated by the at least one light source is effectively absorbed
15 by the liquid.

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